

## REMARKS

### Summary of Office Action

Claims 25-50 were pending in the application.

Claim 40, 42, and 44 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

Claims 25, 28-30, 32, and 38-41 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 2002/0166573 to Policicchio et al. (“Policicchio”) for the reasons set forth on page 3 of the Office Action.

Claims 26 and 42-45 are rejected under 35 U.S.C. 103(a) as obvious over Policicchio in view of U.S. Patent No. 6,551,974 to Conrad et al. (“Conrad”) for the reasons set forth on page 4 of the Office Action.

Claim 27 is rejected under 35 U.S.C. 103(a) as obvious over Policicchio in view of U.S. Patent No. 3,728,188 to Yarrington (“Yarrington”) for the reasons set forth on pages 4-5 of the Office Action.

Claim 31 is rejected under 35 U.S.C. 103(a) as obvious over Policicchio for the reasons set forth on page 5 of the Office Action.

Claim 33 is rejected under 35 U.S.C. 103(a) as obvious over Policicchio in view of U.S. Patent No. 4,578,209 to Hisamoto et al. (“Hisamoto”) for the reasons set forth on page 6 of the Office Action.

Claims 34-37 are rejected under 35 U.S.C. 103(a) as obvious over Policicchio in view of U.S. Patent No. 6,460,548 to Gordon et al. (“Gordon”) for the reasons set forth on pages 6-7 of the Office Action.

Claims 46-50 are rejected under 35 U.S.C. 103(a) as obvious over U.S. Patent No. 4,213,796 to Shaffer (“Shaffer”) in view of Policicchio for the reasons set forth on pages 7-8 of the Office Action.

Applicants’ Reply

Applicants have currently amended claim 25, reciting a discoloration removal cleaning agent comprising, among others, “a water-soluble inorganic acid salt of potassium fluoride in an amount of 0.5 to 5.0 wt %,” “a composition including one of an organic acid and an organic acid salt in an amount of 2 to 15 wt %,” “a surfactant in an amount of 2 to 10 wt %,” “a hydrophilic oxygen-containing hydrocarbon solvent in an amount of 5 to 20 wt %.” Applicants have also amended claim 46, reciting a discoloration removal cleaning method comprising, among others, “coating discolored sections of the particular material with a discoloration removal cleaning agent, the cleaning agent including a water-soluble inorganic acid salt of potassium fluoride in an amount of 0.5 to 5.0 wt %, a composition including one of an organic acid and an organic acid salt in an amount of 2 to 15 wt %, a surfactant in an amount of 2 to 10 wt %, a hydrophilic oxygen-containing hydrocarbon solvent in an amount of 5 to 20 wt %.”

Applicants have amended claims 26 and 43 to correct the typographic errors (changing “fluoracarbon” to “fluorocarbon”), and amended claims 40, 42, and 44 to cure informalities contained therein.

Applicants have further cancelled claims 27, 30, 35, and 37, and added new claims 51-53 (claims 51 and 52 depend from claim 25; claim 53 depends from claim 46). Applicants have also amended claims 38 and 39 so that they now depend from newly added claim 51.

These amendments can find support throughout the specification and claims as originally filed, e.g., in the specification, page 10, line 29 to page, line 17; page 12, lines 5-13; page 12, lines 26 to page 13, line 29; page 15, line 4 to page 17, line 13. No new matter is introduced by way of the amendments. Upon entry of the amendments, claims 25-53 are pending.

***I. Rejections under 35 U.S.C. 112, second paragraph***

Applicants have currently amended claim 40, reciting that the discoloration removal cleaning agent according to claim 25 “further comprising a discoloration inhibitor which . . .” Applicants have similarly amended 42 and 44 to introduce the terms “fluorocarbon resin” and “polishing material” into the respective claims. In view of the amendments, Applicants respectfully submit that claims 40, 42, and 44 are now definite. Withdrawal of this rejection under 35 U.S.C. 112 is respectfully requested.

***II. Rejections of claims 25, 28-30, 32, and 38-41 under 35 U.S.C. 102(e)***

As amended, claim 25 is directed to a discoloration removal cleaning agent for at least one of a titanium building material and a titanium alloy building material, including a water-soluble inorganic acid salt of potassium fluoride in an amount of 0.5 to 5.0 wt %; . . .

Policicchio does not teach a discoloration removal cleaning agent that includes a water-soluble inorganic acid salt of potassium fluoride in an amount of 0.5 to 5.0 wt%. Therefore, Policicchio does not teach every limitation of claim 25. Accordingly, for at least this reason, claim 25 is not anticipated by Policicchio.

The rejection of claim 30 is moot because claim 30 is now cancelled. Claims 28, 29, 32, and 38-41 all depend (directly or indirectly) from claim 25. Therefore, they are not anticipated by Policicchio.

Accordingly, Applicants respectfully request that the rejections under 35 U.S.C. 102(e) be withdrawn.

***III. Rejections of claims 26, 27, 31, 33, 34-37, and 42-50 under 35 U.S.C. 103(a)***

To reject claims in an application under 35 U.S.C. § 103(a), an examiner must establish a *prima facie* case of obviousness. Using the Supreme Court's guidelines enunciated in *Graham v. John Deere*, 383 U.S. 1, 17 (1966), which was reaffirmed by *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007), one determines "obviousness" as follows:

Under § 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined.

Further, for making an obviousness rejection, the asserted combination of prior art references must teach or suggest each and every claim feature. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974) (to establish *prima facie* obviousness of a claimed invention, all the claim features must be taught or suggested by the prior art).

As discussed above, claim 25 as amended includes a feature that the discoloration removal cleaning agent comprises "a water-soluble inorganic acid salt of potassium fluoride in an amount of 0.5 to 5.0 wt%." This feature is not taught or suggested by Policicchio. Conrad

does not cure this deficiency of Policicchio because Conrad does not teach or suggest this feature, either. Therefore, the combination of the Policicchio and Conrad does not render claim 25 obvious for at least this reason. Because claims 26 and 42-45 all depend from claim 25, they are not obvious over Policicchio and Conrad.

The rejections of claims 27, 35 and 37 are moot because these claims have now been cancelled. Since claims 31, 33, 34, and 36 all depend from claim 25, and neither Hisamoto nor Gordon teach or suggest the above noted feature in claim 25, claims 31, 33, 34, and 36 are not obvious over Policicchio alone or its combination with Hisamoto or Gordon.

Claim 46 as amended is directed to a discoloration removal cleaning method for a particular material including coating discolored sections of the particular material with a discoloration removal cleaning agent, “the cleaning agent including a water-soluble inorganic acid salt of potassium fluoride in an amount of 0.5 to 5.0 wt % . . .” Because neither Shaffer nor Policicchio teaches or suggests a discoloration removal cleaning method including using a discoloration removal cleaning agent including “a water-soluble inorganic acid salt of potassium fluoride in an amount of 0.5 to 5.0 wt %,” the combination of Shaffer and Policicchio would not render claim 46 obvious. Since claims 47-50 all depend from claim 46, they are not obvious over Shaffer and Policicchio for at least this reason.

It is further noted that none of the cited references in the Office Action teach or suggest formulations or methods that are suitable or effective for removing discoloration on titanium or titanium alloy materials. As can be appreciated by a skilled artisan, surfaces of different types of materials are different in their physical characteristics and may contain different chemical impurities. As explained in the Background section of the instant specification (see page 1, line 16 to page 3, line 15), cleaning and discoloration removal for titanium materials are difficult due

to some specific technical challenges. Therefore, there would be no motivation to combine the references or reasonable expectation of success in combining the references to arrive at the instant claims, which are directed to discoloration removal cleaning agents, or methods of removing discoloration, for titanium or titanium alloy building materials.

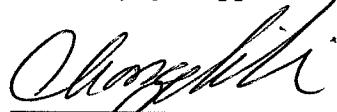
Based on the foregoing, Applicants respectfully request that the rejections under 35 U.S.C. 103(a) be withdrawn.

Conclusion

On the basis of the foregoing amendments and remarks, Applicants respectfully submit that the pending claims of the present application are allowable over the prior art of record. In the event that the application is not deemed in condition for allowance, the Examiner is invited to contact the undersigned in an effort to advance the prosecution of this application.

Respectfully submitted,

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